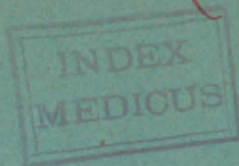


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*Hydrotherapy in the Treatment of Nervous
and Mental Diseases.*

BY

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FIRST ASSISTANT PHYSICIAN AT THE HUDSON
RIVER STATE HOSPITAL FOR
THE INSANE.



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HYDROTHERAPY IN THE TREATMENT OF NERVOUS AND MENTAL DISEASES.

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In advocating a more general use of hydrotherapy in diseases of the nervous system and in insanity, I wish to forestall criticism by saying that I do not do so to the exclusion of other means of treatment, for we possess adjuncts of great importance in massage, Swedish gymnastics, passive and active machine movements, and dietetics, all of which are also deserving of much wider attention than is usually given to them. It is too well known that the mere administration of drugs, very valuable as many of them may be, and the employment of electricity, even if done scientifically, as is seldom the case, are rarely sufficient in themselves, especially in nervous diseases, to effect a cure.

Many of the scientific principles of hydrotherapy have already been established, but it would be well worth while to carry out at a few of our clinics and in the physiological laboratories some of those elaborate experiments with water which are frequently resorted to for the purpose of demonstrating the uses of new drugs. The "water treatment" certainly has many features which appeal strongly to our sense of rational treatment, for are we not able thereby to affect very markedly the local innervation, to dilate and contract vessels, alter the circulation in a part, change the distribution of the blood of the whole body, retard or accelerate the blood-current, weaken or strengthen the cardiac contractions, vary the amounts of secretion and excretion, increase heat radiation? And who can calculate to what degree we may thus influence the biochemical processes of the body, the metabolism of tissues, the carrying off of degenerated and toxic substances? or determine how much we may affect the vascular neuroses, the local anæmias and hyperæmias of the brain and spinal cord? We do wrong, therefore, not to properly investigate this agent, but to relegate hydrotherapy, as is so often the case in this country, to quacks who in some States are even without a medical degree, yet who still are known to cure many cases that find their way into their hands.



It would be well if some of our large schools would initiate a course of lectures on the subject.

In continental Europe the "water cure" has become of late a scientific remedy, one recognized as of great value, and everywhere—in asylums and hospitals, at health resorts, and in the cities—at the command of all physicians in private practice, are excellent means of making use of hydrotherapy where it is indicated.

I will here enter into details as to hydrotherapeutic measures only in so far as mental and nervous diseases are concerned; their manifold application in a great variety of general diseases, such as fevers, disorders of the stomach and intestinal tract, affections of the respiratory and circulatory organs, and the like, has become fairly well known in America, particularly through the earnest propaganda of Dr. Simon Baruch,¹ of New York.

In my tour of inspection of asylums for the insane in Germany, Holland, France, Belgium, Italy, and Austria, in the winter of 1886-1887,² I was surprised to find how universally hydrotherapy was employed in the treatment of certain conditions in insanity, and with what excellent results; and in a visit to the new insane asylum at Athens, Greece, in 1892, I was astonished to note how well equipped a hydrotherapeutic establishment it possessed, although situated in a country we are disposed to consider somewhat out of the track of modern progress.

On my return to America, in 1887, I put into practice, as well as means would permit, at the Hudson River State Hospital for the Insane, some of the principles of hydrotherapy that I had acquired abroad, but, as the facilities were quite inadequate, my hydrotherapeutic measures were limited to applications of warm and cold baths, brief or prolonged, the wet pack, wet compresses, and ice-bags. Nevertheless, I learned from observation and experiment how much could be accomplished in the treatment of insomnia, congestive conditions, states of mental excitement, restlessness, and the like, by even such simple measures, and understood how much more might be done were each asylum provided with means for the methodical, systematic, and scientific employment of the water treatment. As it is, I do not know of any asylum in America that is supplied with anything beyond the ordinary baths for purposes of cleanliness, and one of the objects of this article is to stimulate a more general consideration of the value of hydrotherapy by asylum authorities, with the hope that it may lead to installations of the necessary apparatus in most of these institutions in our land.

With reference to general nervous diseases, I am sure there is a tendency everywhere among neurologists to look with more and more

¹ *Uses of Water in Modern Medicine.* Detroit: Geo. S. Davis.

² "Some European Asylums," *Am. Journ. of Insanity*, April, 1887.

complacency upon this means of treatment as one of great value. I know that this is true in all parts of Germany, Austria, and France. In some conversations with Professor Winternitz, who, as is well known, occupies a special chair of hydrotherapy in the University of Vienna, I learned that in his practice of over thirty years' duration, fully three-fourths of his patients were sufferers from nervous disorders, and his remarkable success in relieving and curing bad cases is everywhere attested. I had the pleasure of visiting his large establishment for hydrotherapy, at Kaltenleutgeben, near Vienna, and of examining his methods and the apparatus he employs there.

I am aware that among my neurological colleagues in New York, also, there is a growing disposition to make greater use of hydrotherapeutic and mechanical treatment in nervous diseases, though the facilities for properly carrying out some of the procedures are still to some extent wanting.¹

GENERAL LAWS.

The following are the ordinary effects to be borne in mind in the application of hydrotherapy to disorders of the mind and nervous system :

1. Cold and warm baths affect the central nervous system in a reflex manner by stimulating the sensory nerves of the skin and the vasomotor nerves, and thus influencing the cerebral circulation. Cold excites and warmth diminishes irritability when thus applied.

2. Short cold baths, especially when combined with sprinkling, showering, or rubbing, are powerfully stimulating, exhilarating, and tonic.

3. Prolonged warm baths, steam and hot-air baths, and the hot pack, are relaxing, fatiguing, and soporific.

4. A cold bath stimulates various reflexes in the body, such as peristalsis and the visceral reflexes in the sacral portion of the spinal cord.

5. Warm baths, by soothing peripheral nerve irritability, exert a calmative influence over the central nervous system. They mitigate reflex spasm and contractions in voluntary or involuntary muscle.

6. Cold applications to the skin stimulate vaso-dilator nerves, dilate the peripheral vessels, and increase blood-pressure. Warm applications also dilate superficial capillaries, but by diminishing the tone of the vessel walls they also reduce arterial tension.

7. To lower the irritability of individual nerves or of the entire nervous system, prolonged warm baths or the hot pack are indicated.

8. As many hydrotherapeutic measures tend to reduce temperature, it is important to remember that in non-febrile cases, in anæmic conditions, and in debilitated states, the temperature must be raised artifi-

¹ Since writing the above there has been established a Hydriatric Institute at 635 Park Avenue, with unusual facilities.

cially before subjecting patients to hydriatric treatment. In some cases the temperature of the body on rising from bed in the morning is sufficient; in others a short stay in the hot-box may be needed.

APPLICATIONS IN CONDITIONS AMONG THE INSANE.

Before entering specifically into this subject, I wish to call the attention of asylum physicians to the adaptability of the rain-bath for the general purposes of cleanliness among patients in their institutions.

The rain-bath was instituted in Vienna (although the originator was a Berlin physician) in public bathing-houses for the purpose of increasing bathing facilities, *i. e.*, by its use space could be economized, a greater number of people could be cleansed in a given time than by ordinary methods, fewer servants were necessary, greater cleanliness was attainable, and the dangers of contagion were minimized. This bath consists of a dressing-room for each person, a small room adjacent, where the bather can stand, and a gentle shower at low pressure, like rain, which descends upon him, washing him thoroughly from head to foot and flowing away at once upon impenetrable floors into the sewers.

In our large asylums, as is well known, one or at most two stationary bath-tubs are supplied for each ward containing thirty to forty patients. There is a regular bathing-day each week, and upon that day most of the patients take baths in a way which is not always beyond criticism. They are hurried and imperfect baths, and frequently, if not carefully watched, the attendants make several patients bathe in the same water before cleansing the tub. The cleansing is not often as thorough as it should be. Besides the baths given to all on regular bathing-days, the filthy patients, that is, those who soil themselves in bed or who smear themselves with filth, are bathed frequently every day. While every precaution is taken as regards cleanliness that can be taken by the asylum authorities, still one is inclined to doubt the perfection of such bathing arrangements, and it seems to me that the rain-bath system could be employed with even more advantage in these institutions than in the public baths of cities. I hope some of our progressive superintendents will initiate this change. They will find in New York examples of the rain-bath system, recently introduced through the able advocacy of Dr. Baruch, at the public bath-houses at No. 7 Central Market Place, at the Demilt Dispensary (corner of Twenty-third Street and Second Avenue), the Baron De Hirsch Baths, at Essex and Market Streets, and at the Juvenile Asylum. Another advantage of the rain-bath in asylums would be the prevention of injuries such as occur occasionally on putting excitable patients into the tubs, and the impossibility of scalding or suicide. Rare as these accidents may be, they have to be carefully guarded against under present arrangements.

A simple hydriatric chamber. This might easily be provided in each ward—or, at least, in one out of five wards—by slight alteration of the present bath-rooms. The walls would require protection by means of a rubber lining, or, better, tiles or marble, and the floor should be zinc-lined, tiled, cemented, or made of asphalt. Several rain-baths should be installed. There should be one stationary bath-tub. There should be several kinds of douches, connected with the hot and cold water pipes, and to this douche-apparatus should be attached a gauge for measuring the pressure. In summer the hydrant water is never cool enough for some purposes, and a small reservoir should be arranged (coils packed in ice) for obtaining cold water when required. A hot-air box is very useful. The equipment is complete when to these are added one or two foot-baths, a sitz-bath, several cooling-caps or ice-caps, Chapman's ice-bags, and a liberal supply of linen for wet-packing, dry-packing, wet compresses, and bandages.

It is very essential that such an establishment be put in charge of an intelligent nurse who would learn under the direct instruction of the physician in charge how to carry out properly every procedure.

The room should be capable of being heated when in use to a temperature that will feel agreeable to the bather when undressed. It is needless to say that patients should not be treated in a cold bath-room.

INDICATIONS AND METHODS.

For tonic and refreshing effects. A cold rain-bath (50° to 70°), the patient rubbing himself while in the bath. Duration five to ten seconds; or the half-bath in a tub at 65° to 75° Fahr., ten to thirty minutes. By "half-bath" is meant only six to eight inches of water in the tub, in which the patient lies and splashes about and is rubbed by an attendant. The object in both is to get the exhilarating and stimulating effects of the cold, and also the mechanical effect of the water impinging upon the skin. Such a bath should be taken every morning.

For powerful tonic, revulsive, and derivative effects. The cold douche increases reflex excitability, and causes hyperæsthesia of the skin. It is a powerful stimulus, mental and physical. By means of various nozzles it may be ejected in the form of a jet, a spray, a shower, a fan, and by alternating with hot and cold water we have what is known as the Scotch douche. Such procedures are indicated in lethargic and hysterical forms of insanity, where there is sluggishness of the intellect, apathy, stupor, catalepsy, etc., and in melancholic cases, and in all cases where there is anæmia, chlorosis, or gastric disorders.

To produce sleep. The prolonged warm whole bath is indicated. Temperature 70° – 90° . Duration, one-half to two hours. When of long duration the patient may be suspended in a hammock made of a sheet. Indicated in cases of melancholia with excitement and in some maniacal

conditions. As a general hypnotic agent, however, applicable to all forms of insomnia among the insane, the hot wet pack stands foremost. It is applied in this way: A blanket 9 by 9 feet is spread upon the patient's bed, and upon this a sheet wrung out dry after dipping in hot water is laid. The patient lies down upon this, and the sheet is at once evenly arranged about and pressed around the whole body with the exception of the head, after which the blanket is also immediately likewise closely adjusted to every part of the patient's body. Other dry blankets may now be added as seems necessary. The patient remains in this an hour or longer; all night if asleep.

Maniacal excitement. In this condition we all know how important it is to control motor excitement as much as possible in order to prevent the metabolic waste that progresses only too rapidly in many cases, often leading to death from exhaustion in a few days. Formerly we were accustomed to fasten the patient in bed with a strait-jacket, and dose with hyoscyamine liberally, and this treatment undoubtedly saved many lives, but the fastening in bed has been to a great extent tabooed of late years. It is astonishing to note the good effects of hydrotherapy in many cases of this kind. The measures to be carried out are those indicated for insomnia. It is not often that patients laboring under great excitement can be placed in the warm bath, but the wet pack is applicable in nearly every case. It not only diminishes the erethism, but often brings about refreshing sleep, and always when kept applied prevents metabolic waste by motor excitement. I know of nothing that gives one better results in such cases than the wet pack in conjunction with overfeeding and occasional doses of hyoscyamine or duboisine if needed.

Congestive headaches. These headaches are quite common among the insane, and one of the best hydiatric procedures for their relief is a running water cold foot bath every evening. The object is to dilate the vessels in the feet, to derive the blood from superior parts. One must, therefore, prescribe a prolonged foot-bath, accompanied by rubbing and chafing of the feet for the mechanical effects of the water; or a strong fan douche of cold water applied to the feet very soon dilates the vessels and warms and reddens the feet. Actual experiment has shown that the temperature in the auditory meatus is lowered as much as one degree by a cold foot-bath, and conjunctival vessels have been observed to contract.

Constipation. In the atonic condition of the intestines in most cases of melancholia and in some other forms of insanity, a powerful stimulus to peristalsis will be found in pouring water over the abdomen when the patient is in a tonic half-bath of low temperature.

APPLICATION OF HYDROTHERAPY IN NERVOUS DISEASES.

The methods of using hydiatric measures for the purpose of a powerful nervine tonic and derivative, and to produce sleep and soothe nervous

excitement and irritability, have been described above. I will add here some of the special indications in various nervous disorders in a brief and practical summary, alphabetically arranged.

Anæsthesia (cutaneous). Short cold jet and fan douches of strong pressure to the anæsthetic areas. Temperature, 50° to 70°. Duration one minute. Daily.

Angio-paralytic hyperidrosis of the feet. Prolonged cold foot-bath with chafing, or fan douche of cold water to the feet. Temperature, 60°. Duration twenty minutes for bath, five minutes for douche.

Chorea. Cold plunge beginning at 90°, daily reducing until 70° is reached.

If anæmic, spinal spray, jet or fan douches, at first warm until patient becomes accustomed to them, then gradually reduced to 60° or 50° (Duval).

Epilepsy. Cold shower baths and cold sponge baths daily are beneficial. The shower baths should be rain-like in character—that is, not too forcible.

In many cases a morning and evening bath (the “half-bath”) proves very serviceable. The “half-bath” is taken in a bath-tub only half filled with water, and when taken should be accompanied by energetic rubbing of the patient by an attendant. This bath lasts five minutes, and the temperature should not be under 50° and not over 70° F.

Where there is evidence of hyperæmia and increased blood-pressure in the head, the cold cap is useful.

While these are the general indications for hydrotherapy, certain measures are often of use at the time of seizures. During a fit or during a *status epilepticus* it will be observed that there is one of two vascular conditions present: either the face is pale and there are signs of brain anæmia, and in this case warm wet compresses should be applied to the head and genitals, accompanied by friction of the trunk upward, the body being placed with head low and arms uplifted; or there is turgescence of vessels in the head, the face is red, the carotids beat strongly, and under such conditions a contrary procedure is indicated—cold compresses to the head, neck, and genitals, strong wet beating of the feet, with a high position of the head. Daily applications for thirty seconds.

Headaches, neuralgias, and migraines. If anæmic, heating cephalic compresses (wring out thin linen bandages in very cold water; wrap head in capelline manner, and cover with one or two layers of dry linen or flannel). Apply at bedtime. Upon removal, envelop head in dry cloth and rub it dry.

If hyperæmic, leg bandages (a piece of towelling a yard long is dipped in cold water at one end—one-third—thoroughly wrung out and wrapped closely about each leg, so that the wet surface is next the skin

and the dry portion envelops the wet two or three times. Or, wet stockings may be put on and covered with dry towels). These are applied at bedtime and retained through the night.

In many headaches, especially of a congestive character, a prolonged cold foot-bath (twenty minutes, 60°) or the fan douche to the feet (five minutes, 60°) is very palliative.

Hysteria. For *erethetic type*: Wet pack, 60° to 70° for one hour or more, followed by massage (Putnam Jacobi); or the rain-bath at 75° to 65° for thirty-five seconds daily at twenty pounds pressure (Baruch).

For *depressed type*: Cold affusions while standing in warm water, or hot-air bath, followed by rain-bath for thirty seconds at 85°, daily reducing until 60° is reached, this to be followed by spray douche for five seconds at 65°, or jet douche for three seconds at 65° to 55°. Reduce douche gradually to 50° or less, increasing pressure from two pounds to thirty (Baruch).

Hyperæsthesia (cutaneous). Long-continued cold douches to affected area. Daily twenty minutes at 70° to 80°.

Insomnia. Wet pack; see above.

Impotence. Brief cold sitz-baths. Daily, 56° to 64°, one to five minutes. The psychrophore, *i. e.*, application to prostate of cold by a rubber condom or bladder secured over a rectal irrigator *au double courant*.

Incontinence of urine. In paresis of sphincter or detrusor brief cold sitz-baths, daily, 56° to 64°, one to five minutes. Cold rain-baths (50° to 60°) and douches as general tonics.

In spasmus detrusorum vesicæ, on the contrary, prolonged lukewarm sitz-baths, daily, thirty to sixty minutes, 70° to 90°.

Locomotor ataxia. Prolonged warm baths, five to twenty minutes, 86° to 95° (Leyden). Hot-air baths to lower extremities followed by affusions or douches, 60° to 70° (Hoeplein).

Neuralgia of all types, especially tic. Hot-air bath, to perspiration, every other day, followed by gradually lowered douches (Baruch, Duval).

Sciatica. Hot-air bath till patient perspires, followed by cold plunge, or douche gradually lowered to 65°.

Spinal-cord affections. In various chronic diseases of the spinal cord the daily half-bath, 65° to 82°, six to ten minutes' duration, with affusion and chafing, will be found useful. In some cases of compression and injury to the cord, in myelitis, and the like, where there is paralysis of the rectum and bladder and formation of bedsores or trophic lesions, resort may be had with advantage to the permanent bath (Riess). A sheet fastened in a bath-tub makes a hammock in which the patient lies at first for an hour or so daily, later all the time, except at night, when

he is put to bed. The water is kept at a temperature agreeable to the patient (88°).

Spinal irritation. "Douche filiforme" as a rubefacient and epispaetic along the spinal column; or rain-baths, 65° to 85°, and douches.

Spermatorrhœa. Cold sitz-baths, five to twenty minutes, 50° to 70°, daily at bedtime; contra-indicated in sexual irritability and active pollutions, where prolonged warm or hot sitz-baths at 90° to 98° should be used.

Finally, I need scarcely say that if the alienist and neurologist are to make use of hydrotherapy at all, it must be borne in mind that precision of method is absolutely essential. As much care is necessary as in the prescription of drugs; for any violation of the principles or neglect of the modes determined by long experiment and experience is certain to be followed by unfortunate results.

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